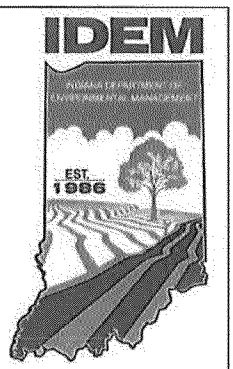
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT	STATUS: Effective	POLICY NUMBER: AIR -038-NPD	
AGENCY NONRULE POLICY DOCUMENT **SUBJECT:** Permitting of Activities Located at Livestock Production Operations including Concentrated Animal Feeding Operations	**AUTHORIZED:** Thomas W. Easterly		
	SUPERSEDES: New	**ISSUING OFFICE(S):** Office of Air Quality	
	ORIGINALLY EFFECTIVE: February 13, 2015	**RENEWED/REVISED:** Date	

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1.0 PURPOSE

The purpose of this NPD is to provide guidance to owners/operators of livestock production operations, including Concentrated Animal Feeding Operations (CAFOs) and their consultants about what activities associated with livestock production and CAFOs may require permits from the Office of Air Quality (OAQ).

2.0 SCOPE

This NPD applies to livestock production operations, including CAFOs as defined in the Code of Federal Regulations (CFR) at 40 CFR 122.23.

3.0 SUMMARY

This NPD describes what activities at livestock production operations, including CAFOs may need permits from OAQ and should be reviewed and included in any permit application. Some of these activities include combustion equipment, manure management and feed storage and handling. There may be other activities (e.g. crop production) located at farms that include CAFOs and livestock production that would not be subject to this NPD and would be addressed in other policies, guidance and rules.

4.0 DEFINITIONS

4.1. "Agency" – The Indiana Department of Environmental Management (IDEM).

4.2. "Emissions unit" means any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant under the Clean Air Act (CAA).

4.3. "Nonrule policy" - The term assigned by the Indiana Department of Environmental Management (IDEM) to those policies identified in IC 13-14-1-11.5 as any policy that: A. Interprets, supplements, or implements a statute or rule; B. Has not been adopted in compliance with IC 4-22-2; C. Is not intended by IDEM to have the effect of law; and D. Does not apply solely to the internal IDEM organization (is not an Administrative Policy).

4.4. "Potential to emit" means the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted,

stored, or processed, shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency. The term does not alter or affect the use of potential to emit for any other purpose under the CAA, (or "capacity factor" as used in Title IV of the CAA) or the regulations promulgated thereunder.

For livestock production operations other than digesters, flares, and digester engines, the physical and operational design for purposes of estimating the maximum capacity to emit an air pollutant may be based on the five (5) most recent years of production multiplied by an adjustment factor of 1.2, as described in the November 14, 1995 U.S. EPA guidance document "Calculating Potential to Emit (PTE) and other Guidance for Grain Handling Facilities" (See References 7.5A at the end of this document.)

4.5. "Source" means an aggregation of one (1) or more stationary emissions units that are located on one (1) piece of property or on contiguous or adjacent properties, are owned or operated by the same person (or by persons under common control), and belong to a single major industrial grouping. For purposes of defining a source, two (2) or more contiguous or adjacent properties shall be considered part of a single major industrial grouping if all of the pollutant emitting activities at such contiguous or adjacent properties belong to the same major group, that is, all have the same two (2) digit Standard Industrial Classification (SIC) code as described in the Standard Industrial Classification Manual, 1987. Any stationary source (or group of stationary sources) that supports another source, where both are under common control of the same person (or persons under common control) and are located on contiguous or adjacent properties, shall be considered a support facility and part of the same source regardless of the two (2) digit SIC code for that support facility. A stationary source (or group of stationary sources) is considered a support facility to a source if at least fifty percent (50%) of the output of the support facility is dedicated to the source. A source does not include mobile sources, nonroad engines, or nonroad vehicles.

5.0 ROLES

This nonrule policy should be used by owners/operators of concentrated animal feeding operations and their consultants to determine what activities should be permitted and included in permit applications.

This nonrule policy will be used by OAQ staff to determine what should be included in permit applications for livestock production operations, including concentrated animal feeding operations and what activities should be permitted.

6.0 POLICY

6.1. Introduction

On January 21, 2005, EPA announced an air quality compliance agreement to address emissions from certain animal feeding operations, also known as AFOs. On August 22, 2006, EPA's Environmental Appeals Board (EAB) approved the two final voluntary agreements, making a total of 2,568, representing 1,856 swine, 468 dairy, 204 egg-laying and 40 broiler chicken operations. The agreements allowed for the start of a monitoring program for barns and other buildings that house animals and lagoons or other structures that store or treat manure and other wastes. As part of the agreement U.S. EPA agreed to not take enforcement action for violations related to the pollutants and structures being monitored. The agreement stated that the enforcement discretion did not extend to requirements related to emissions generated by other equipment or activities at the farms, including waste-to-energy systems.

U.S. EPA has completed the monitoring study, but has not published any accepted emission factors to be used to determine permitting requirements for the units covered under the agreement. Since OAQ does not have reliable emission factors and in keeping with the agreement, OAQ is not looking to review those units to determine permit applicability. However, there are other activities associated with livestock production and CAFOs that could require some level of permitting.

6.2. What activities should be reviewed for purposes of permitting

The following units and activities would need to be reviewed and included in air permit applications:

- Combustion equipment in animal confinement areas including, but not limited to, space heaters, boilers, water heaters, and emergency generators.
- Grain dryers, grain handling and grain storage and milling operations in raw material storage areas.
- Manure digesters and related combustion equipment including engines, flares and boilers.
- Egg washing, egg processing and egg drying.
- Incinerators for disposal of mortalities.

6.3. Permit and Approval Levels

IDEM expects the vast majority of farms will not need registrations or permits for air emissions because the potential to emit air pollutants, as determined by USEPA and IDEM guidance, will be less than the emission levels that trigger air permitting. Based on long standing U.S. EPA guidance, livestock production operations, except digesters, flares, and digester gas-powered engines, may base potential to emit estimates on historical production levels (See the definition of potential to emit in Section 4.4). Some farms, especially CAFOs that include digesters with engines and/or flares, because of activities and operations conducted on the farm, or because of their overall size, may have emissions greater than the IDEM permitting thresholds.

IDEM, in conjunction with agricultural trade associations, have attempted to identify the type of farms that may be large enough to require a registration or permit. By conducting surveys of farm capacities and production levels and estimating emissions from those activities using standard USEPA emission calculation methods, IDEM and the trade associations are able to provide some general guidelines for the kinds of farms that may need permits. If your farm has lower capacities or production levels compared to the farms in the examples below, it is highly unlikely your farm would need a registration or permit. If your farm is similar to or larger than the farms in the examples, you should conduct a closer evaluation of whether a permit or registration is required.

The two pollutants emitted by farms that may trigger a registration or permit are nitrogen oxides (NOx) and particulate matter (PM). NOx is a by-product of burning a fuel, and is typically emitted by stationary engines such as irrigation engines, emergency generators, space heaters, boilers or grain dryers. If a farm's potential to emit NOx is greater than 10 tons per year, a registration from IDEM is needed. PM is typically generated by dust creating activities such as grain handling or production vehicle traffic on unpaved roads and lots. For this calculation, farms do not include PM which may originate from tillage or harvesting. A registration is required if the potential to emit PM is greater than 5 tons per year. Permits from IDEM are required only when NOx or PM potential to emit exceed 25 tons per year. Livestock production operations and CAFOs that include digesters with engines and/or flares also emit carbon monoxide (CO) and if the potential to emit is greater than 25 tons per year a registration would be required.

In the livestock production example below, the critical operations are diesel fired backup emergency generators, which are significant sources of NOx emissions. The table below provides an example farm that has three emergency generators with total capacity of 900 horsepower. The NOx emissions are below the IDEM registrations levels, but close enough that a fourth generator of similar size could put the farm over the 10 ton threshold for NOx emissions. Any farm with capacity and production well below these levels would be highly unlikely to need a registration. A farm above or even slightly below these production levels should conduct a more thorough evaluation to determine if a registration or permit is required.

Example 1: Livestock production (e.g., hog farm)

Activity	Context – Capacity and historic utilization	Critical Pollutant	Emission rate (with 20% upward adjustment)
Backup generators - diesel	900 hp total capacity at 500 hours per year per EPA guidance	PM	0.19 ton/yr
		SO2	1.09 ton/yr
		NOx	6.48 ton/yr
		VOC	0.19 ton/yr
		CO	1.49 ton/yr
Space heaters, boilers, and power washers	90,000 gallons LP consumed per year Or 12 million cubic feet natural gas consumed per year	PM	0.01 ton/yr
		SO2	0.01 ton/yr
		NOx	0.72 ton/yr
		VOC	0.05 ton/yr
		CO	0.60 ton/yr
Feed handling	8200 tons per year of feed consumed	PM	1.50 ton/yr
Livestock carcass incineration	180 tons per year incinerated	PM	0.76 ton/yr
		SO2	0.05 ton/yr
		NOx	0.22 ton/yr
		VOC	0.22 ton/yr
		CO	1.08 ton/yr
Vehicle traffic on unpaved roads and lots	400 truck trips per year; approximately 2600 feet round-trip distance	PM	0.81 ton/yr

The following example is for a livestock operation that includes an anaerobic digester that supplies methane to engines and flares. The critical operations are a digester gas engine, waste gas flare, and a 150 hp diesel-fired emergency generator, which are significant sources of NOx emissions. The engine and flare are also significant sources of CO emissions. The NOx and CO emissions are below the IDEM registrations levels, but close enough that any increase in size or capacity could put the farm over the 10 ton threshold for NOx emissions or 25 ton threshold for CO emissions. Any farm with capacity and production well below these levels would be highly unlikely to need a registration. A farm above or even slightly below these production levels should conduct a more thorough evaluation to determine if a registration or permit is required.

Example 2: Livestock production (e.g., hog farm) with digester

Activity	Context – Capacity and historic utilization	Critical Pollutant	Emission rate (with 20% upward adjustment)
Digester Gas Engine	310 hp	PM	0.17 ton/yr
		SO2	3.33 ton/yr
		NOx	7.18 ton/yr
		VOC	3.59 ton/yr
		CO	17.94 ton/yr
Digester Waste Gas Flare	2.33 MMBtu/hr Or 64.6 scfm	PM	0.18 ton/yr
		SO2	3.33 ton/yr
		NOx	0.48 ton/yr
		VOC	1.71 ton/yr
		CO	0.56 ton/yr
Backup generators - diesel	150 hp total capacity at 500 hours per year per EPA guidance	PM	0.10 ton/yr
		SO2	0.09 ton/yr
		NOx	1.40 ton/yr
		VOC	0.11 ton/yr
		CO	0.30 ton/yr
Space heaters, boilers, and power washers	90,000 gallons LP consumed per year Or 12 million cubic feet natural gas consumed per year	PM	0.01 ton/yr
		SO2	0.01 ton/yr
		NOx	0.72 ton/yr
		VOC	0.05 ton/yr
		CO	0.60 ton/yr
Feed handling	8200 tons per year of feed consumed	PM	1.50 ton/yr
Livestock carcass incineration	180 tons per year incinerated	PM	0.76 ton/yr
		SO2	0.05 ton/yr
		NOx	0.22 ton/yr
		VOC	0.22 ton/yr
		CO	1.08 ton/yr
Vehicle traffic on unpaved roads and lots	400 truck trips per year; approximately 2600 feet round-trip distance	PM	0.81 ton/yr

6.4. Co-located CAFOs and farming operations

In federal and state air permitting regulatory terms, the farming operation is considered a "source" of emissions. The definition of "source" is found at 326 IAC 1-2-73 (see 4.0 Definitions section of this NPD). The definition seems very complex at first reading, but the complexity is designed to deal with industrial sources that can include many different operations with the goal of creating a common product, i.e. integrated structural steel operations. With regard to large farming operations, however, the main thing to determine is whether the plots of land are owned and controlled by the same entity or entities and whether the farming operations are on contiguous or adjacent land. Keep in mind that the term "adjacent" means "nearby" and the term "nearby" does not require the parcels of land to touch; only that they be in close proximity to each other. U.S. EPA guidance suggests that the physical proximity that determines "adjacency" can expand to larger distances if the activities at the different sites are functionally interrelated. In terms of SIC codes[1], two operations under common ownership and control that have different SIC codes can still be combined as one source because one of the operations is dependent on the other operation as a support facility. Therefore a farm (or group of farms) could be considered a support facility to another small livestock operation (or a CAFO) if at least fifty percent (50%) of the output of that farm or group of farms is dedicated to the adjacent livestock operation or CAFO. Due to the fungible nature of feed crops and the short-term nature of agricultural supply contracts, it is unlikely that adjacent farming operations that are under different ownership or control will be considered one "source" for purposes of permitting.

Since source determinations can have an impact on whether a permit application needs to be submitted, OAQ staff will, upon request, review source determination information prior to an application being submitted using the most recent U.S. EPA and OAQ guidance as well as relevant court decisions.

6.5. Federal regulations

Two types of emission units possibly located at livestock production operations or CAFOs that can be subject to federal regulation are boilers and stationary internal combustion engines.

The National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63, subpart ZZZZ (RICE NESHAP) limits emissions of toxic air pollutants from stationary reciprocating internal combustion engines. A general overview of the federal requirements can be found at: http://www.epa.gov/ttn/atw/icengines/index.html and http://www.epa.gov/ttn/atw/icengines/docs/20130919complianceinfo.pdf

The National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers, 40 CFR 63, subpart JJJJJ (Boiler MACT) limits emissions of toxic air pollutants from industrial, commercial, and institutional boilers. A general overview of the federal requirements can be found at: http://www.epa.gov/ttn/atw/boiler/boilerpg.html. A summary of the requirements can be found at: http://www.epa.gov/ttn/atw/boiler/imptools/areaboilerbrochure.pdf

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60, subpart IIII (Compression Ignition ICE NSPS) limits emissions of Non-methane Hydrocarbons, NOx, Hydrocarbons, Carbon Monoxide and Particulate Matter. A navigation tool to help with applicability determinations is available at: http://www.epa.gov/ttn/atw/ice/quiz.html. A question and answer document is available at: http://www.epa.gov/ttn/atw/icengines/docs/20120717riceqaupdate.pdf

Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, 40 CFR 60, subpart JJJJ (Spark Ignition ICE NSPS) limits emissions of NOx, Carbon Monoxide and Volatile Organic Compounds. A navigation tool to help with applicability determinations is

[1] Soybean, wheat, corn and hay farming operations fall within the 01 SIC code and beef cattle, dairy cattle, hog and pig, egg production, broilers, and turkey operations fall within the 02 SIC code.

available at: http://www.epa.gov/ttn/atw/ice/quiz.html. A question and answer document is available at: http://www.epa.gov/ttn/atw/icengines/docs/20120717riceqaupdate.pdf

Additionally, the U.S. EPA issued a guidance document in February 2014 to specifically address farm engines that may be subject to the NSPS Subparts IIII or JJJJ and the RICE NESHAP Subpart ZZZZ called, "Overview of Reciprocating Internal Combustion Engine (RICE) NESHAP Requirements for Stationary Agricultural Engines" found at: http://www.epa.gov/ttn/atw/icengines/docs/20140205agenginecomplianceinfo.pdf.

General implementation information for stationary internal combustion engines rules and requirements can be found at: http://www.epa.gov/ttn/atw/icengines/imp.html. There is a section titled "Summary of Requirements" that includes links to spreadsheets that describe the requirements for the three federal rules that apply to stationary ICE engines. IDEM also has some information about requirements that apply to stationary engines at http://www.in.gov/idem/ctap/2403.htm.

6.6. Assistance

Owners and operators of livestock production operations or CAFOs should evaluate their units and activities where the collective potential to emit is above permitting thresholds to determine if a registration or permit application should be submitted to IDEM. A livestock production operation or CAFO may wish to discuss individual situations with the OAQ Permits Branch by calling 317-234-5132 and requesting a pre-application meeting to discuss your individual situation. Owners and operators of livestock production operations or CAFOs may also contact IDEM's Compliance and Technical Assistance Program (CTAP) for free, confidential compliance and technical assistance. CTAP is available at 800-988-7901 (in-state only) or 317-232-8172.

IDEM has developed some instructional guidance and example calculations for emission units and activities that are commonly found in farming operations. Additionally, the guidance explains the basis and approach for what IDEM has determined are the operational constraints, such as seasonal limitations and maximum crop yields that would reduce the potential to emit in farming operations in Indiana. These documents will be available on Office of Air Quality's Permits website.

7.0 REFERENCES

7.1. Federal Laws or Rules:

A. 40 CFR 122.23

B. 40 CFR 63.6580 *et seq.* (RICE NESHAP)

C. 40 CFR 63.7480 *et seq.* (Boiler MACT)

D. 40 CFR 60.4200 *et seq.* (Compression Ignition ICE NSPS)

E. 40 CFR 60.4230 *et seq.* (Spark Ignition ICE NSPS)

7.2. Indiana Administrative Codes:

A. 326 IAC 2

7.4. Agency Policies:

A. Non-Rule Policy Document "Permitting of Activities Located at Crop Production Operations, Air-039-NPD", http://www.in.gov/idem/files/npd-air-039.pdf

7.5 U.S EPA Policy and Guidance:

A. Memorandum from John S. Seitz to U.S. EPA Regions I-X Air Directors, Calculating Potential to Emit (PTE) and other Guidance for Grain Handling Facilities, dated November 14, 1995, http://www.epa.gov/region07/air/title5/t5memos/grainfnl.pdf

B. Memorandum from John S. Seitz to U.S. EPA Regions I-X Air Directors, Calculating Potential to Emit (PTE) for Emergency Generators, dated September 6, 1995, http://www.epa.gov/ttn/caaa/t5/memoranda/emgen.pdf

C. Stationary Internal Combustion Engines- Basic Info
http://www.epa.gov/ttn/atw/icengines/index.html

D. Stationary Internal Combustion Engines-How to Comply
http://www.epa.gov/ttn/atw/icengines/docs/20130919complianceinfo.pdf

E. Stationary Internal Combustion Engines – NSPS Navigation Tool
http://www.epa.gov/ttn/atw/ice/quiz.html

F. Stationary Internal Combustion Engines – NSPS Question and Answer Document
http://www.epa.gov/ttn/atw/icengines/docs/20120717riceqaupdate.pdf

G. Stationary Internal Combustion Engines – NSPS and NESHAP General Rule Implementation Document including Summary of Requirement spreadsheets
http://www.epa.gov/ttn/atw/icengines/imp.html

H. Overview of Reciprocating Internal Combustion Engine (RICE) NESHAP Requirements for Stationary Agricultural Engines.
http://www.epa.gov/ttn/atw/icengines/docs/20140205agenginecomplianceinfo.pdf

8.0 SIGNATURES

Thomas W. Easterly, Commissioner
Indiana Department of Environmental Management

11/25/14
Date

Keith Baugues, Assistant Commissioner
Office of Office of Air Quality

11/13/14
Date

Carol Comer, Assistant Commissioner
Office of Legal Counsel and Criminal Investigations

11/14/2014
Date

This policy is consistent with Agency requirements.

Quality Assurance Program, Planning and Assessment
Indiana Department of Environmental Management

11-26-14
Date